Labor Market Information (LMI) Help for Program Decision Making

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Labor Market Information (LMI) Help for Program Decision Making

Program decisions

Schools and colleges regularly address the question of whether to add, enhance, or retain a program of study. Labor market information (LMI) resources provide data significant to a program decision-making process--resources that address the following questions:

- What occupations relate to the program?
- What is the employment outlook for those occupations?
- What are wages for entry-level and experienced workers in these occupations? Are these wages commensurate with other occupations with the same education level?
- What other training providers offer this program? Locally? Regionally? In California?
- What industries employ these occupations? Who are the local employers in each industry and what is their size?
- What skill standards, certifications, or licensing exist for the occupation(s)?

Prepare for research

Most LMI research can be accomplished on the Internet using the www.labormarketinfo.edd.ca.gov Web site. If you have not already done so, you will find it helpful to set up your own *MyLMInfo* page for storing your research results.

Select *MyLMInfo* from the top menu tabs and follow the directions to set up and customize your own page. Make it a habit to log in to your *MyLMInfo* page at the start of each visit, and you will always be ready to save information you have researched.

Continuous improvement

The Labor Market Information Division uses comments from customers to improve the features and navigation of our Web site, www.labormarketinfo.edd.ca.gov. We welcome your comments and the opportunity to make our labor market resources increasingly useful and user-friendly.

This continuous improvement of our Web site means the detailed navigation instructions in this document could be superceded by another path to the same objective. If you encounter directions that seem obsolete, contact our publication staff at (916) 262-2162 for assistance in locating the information you seek.

Testing the occupational waters

The *Occupation Profile* feature at www.labormarketinfo.edd.ca.gov can be a useful way to test program potential.

- Select the Educator/Schools portal page from the left menu.
- Choose *Occupation Profile* from *Fast Facts* on the right menu.
- Enter a keyword for the occupation name.
- Select the geographic area of interest.

The resulting *Occupation Details* give you a quick summary of the occupation including outlook and wage data. What does it tell you without any further research? If little demand exists for the occupation, you may not want to invest time developing the spreadsheet data detailed on the following pages.

Exhibit 1: Occupation Profile Results

Step 1: What occupations relate to the program?

Identifying occupations that relate to your training program is the first step since labor market research flows from occupational units.

The Classification of Instruction Programs (CIP), maintained by the National Center for Education Statistics (NCES), identifies occupations related to each training program.

Since California Community Colleges have their own educational program classification system, Taxonomy of Programs (TOP), community college educators must first translate or crosswalk the TOP to a comparable CIP for access to labor market information resources. (See Exhibit 2.)

To find the CIP related to the TOP, use the link below to reach TOP to CIP, the TOP's Appendix B, "Crosswalk Table: 6th Edition Taxonomy of Programs to 2000 Classification of Instructional Programs."

http://www.cccco.edu/divisions/esed/aa_ir/CREDIT/credit_attachments/TopTax.doc

Some researchers start with an occupation title that seems in demand and then seek labor market information to support development of a training program. The *Occupation Profile* feature in www.labormarketinfo.edd.ca.gov identifies CIP training program(s) for each occupation.

Exhibit 3 lists the highest level (two-digit) of the hierarchical Classification of Instructional Programs (CIP) system for categorizing education programs. At the NCES Web site below, the drop down menu of two-digit CIP codes links to more specific six-digit program descriptions within each group. Search this Web tool for the six-digit CIP that matches the program you are researching:

http://nces.ed.gov/pubs2002/cip2000/ciplist.asp

Each CIP description links to Occupational Crosswalks (at the end of each CIP description) showing occupations from other occupational classification systems associated with the CIP training program. The Standard Occupational Classification (SOC) system is the most significant for labor market research.

- 2000 Census Classification
- Bureau of Labor Statistics, Occupational Employment Statistics (OES) Classification
- Office of Management Budget, Standard Occupational Classification (OMB/SOC)
- Employment and Training Administration, Occupational Information Network (O*NET) Classification
- National Skills Standards Board, Industry Cluster
- Department of Education, Career Cluster

Exhibit 2: Crosswalk from Training Program to Labor Market Information

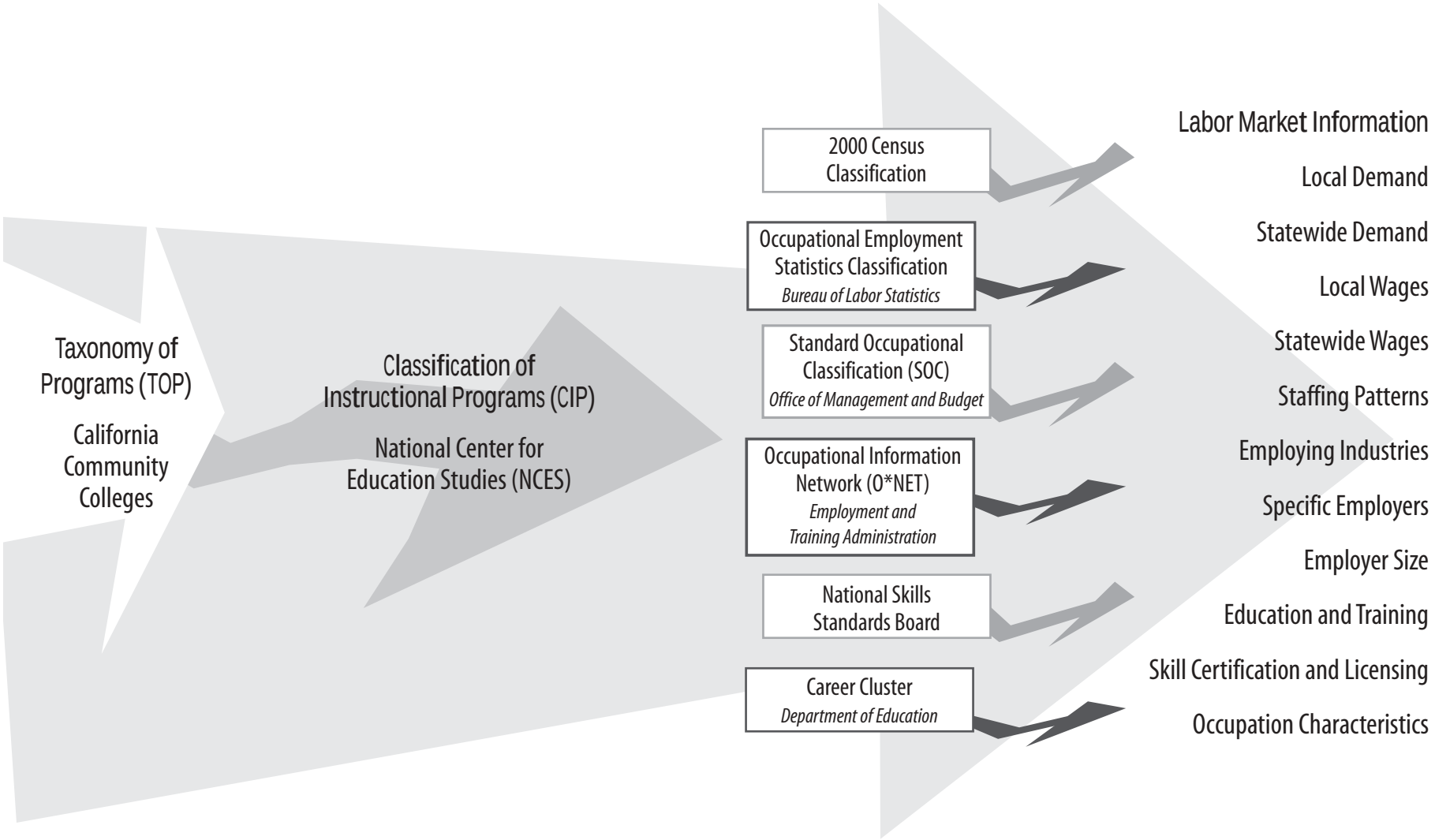

Exhibit 3: Two-digit Classification of Instructional Programs (CIP 2000)

CIP	PROGRAM AREA
01	Agriculture, Agriculture Operations, and Related Sciences
02	Agriculture Sciences
03	Natural Resources and Conservation
04	Architecture and Related Services
05	Area, Ethnic, Cultural, and Gender Studies
09	Communication, Journalism, and Related Programs
10	Communications Technologies/Technicians & Support Svcs.
11	Computer and Information Sciences & Support Services
12	Personal and Culinary Services
13	Education
14	Engineering
15	Engineering Technologies/Technicians
16	Foreign Languages, Literatures, and Linguistics
19	Family and Consumer Sciences/Human Services
21	Technology Education/Industrial Arts
22	Legal Professions and Studies
23	English Language and Literature/Letters
24	Liberal Arts and Sciences, General Studies and Humanities
25	Library Science
26	Biological and Biomedical Sciences
27	Mathematics and Statistics
28	Reserve Officer Training Corps (JROTC, ROTC)
29	Military Technologies
30	Multi-Interdisciplinary Studies
31	Parks, Recreation, Leisure, and Fitness Studies

CIP	PROGRAM AREA
32	Basic Skills
33	Citizenship Activities
34	Health-Related Knowledge and Skills
35	Interpersonal and Social Skills
36	Leisure and Recreational Activities
37	Personal Awareness and Self-Improvement
38	Philosophy and Religious Studies
39	Theology and Religious Vocations
40	Physical Sciences
41	Science Technologies/Technicians
42	Psychology
43	Security and Protective Services
44	Public Administration and Social Service Professions
45	Social Sciences
46	Construction Trades
47	Mechanic and Repair Technologies/Technicians
48	Precision Production
49	Transportation and Materials Moving
50	Visual and Performing Arts
51	Health Professions and Related Clinical Sciences
52	Business, Management, Marketing, & Related Support Services
53	High School/Secondary Diplomas and Certificates
54	History
55	French/Canadian Language & Literature/Letters
60	Residency Programs

Step 2: Spreadsheet

Create an Excel worksheet list of the occupations that relate to the CIP. Include occupation titles and SOC code. Eliminate redundancies. You will use this worksheet to record projections and wage information.

Step 3: What is the employment outlook?

Employment outlook, known as projections, plays a significant role in driving program enrollment. Statewide and local projections data are available from www.labormarketinfo.edd.ca.gov.

1. From the LaborMarketInfo front page, select the *Educators/Schools* portal from the left menu, and then find the *Data Library* feature in the right menu.
2. Follow the steps in the *Data by Occupations* section to download statewide California long-term projections data as an Excel file to be used for further analysis.
3. Download files for other counties or metropolitan statistical areas (MSA) served by the education program under study.
4. Sort the data by SOC code and copy the projected annual job openings data for selected occupations into your prepared worksheet.

Compute totals for the group of occupations. This figure communicates the broader job market for students of the program rather than just the demand for the most highly visible occupation related to the CIP.

Annual openings are useful since educators need to consider program capacity:

- How many students could be enrolled at one time in each stage of the program?
- How many completers could be expected each year?

Note: Some local information may not show up due to confidentiality issues. Employment or wage data is suppressed when there are too few employers of a particular occupation in a geographic area to provide aggregate data. In those circumstances, publishing data would deny the establishment's right to wage and staffing level privacy. Local labor market information consultants may be able to provide an ad hoc report for a fee. Consultants may be located in *Contact Us* section of www.labormarketinfo.edd.ca.gov.

Step 4: What are the wages?

Compile wages for the identified occupations.

1. At the LaborMarketInfo front page, select the *Educators/Schools* portal from the left menu, and then *Find the Data* feature in the right menu.
2. Select *Data Library* to find wage information and scroll to the *Data by Occupation*s section.
3. Download *All Wages by Area* in Excel format. Download statewide data files and files for the counties or metropolitan statistical areas served by the education program under study.

Step 4: What are the wages? *continued*

4. Sort the data by SOC code and copy the wage data for selected occupations into your prepared worksheet that already contains the outlook data.

Note: Wages data do not include self-employed individuals. This can cause wage data for some occupations to be skewed toward the entry level because workers who set up their own business after gaining experience and clientele tend to have higher earnings.

Step 5: How do the wages compare to other occupations with the same training level?

While expected earnings are not the only, or even most important, reason for choosing a program of study, earnings and training duration play a significant role in many individuals' decisions to pursue a training program. How do wages of occupations related to the CIP compare with wages of other occupations at the same Bureau of Labor Statistics (BLS) training level?

Competitive Wages?
Appendix B displays wages for occupations aggregated by each of the 11 training levels as defined by the BLS. See Appendices A for definitions of BLS training levels.

Are the wages for the occupations related to the training programs in the study competitive with occupations requiring the same length of training?

Identify Competing Occupations and Their Wages
Competing occupations can be defined as those within the same BLS training level. Do competing occupations offer higher wages, lower wages, or about the same wage? The BLS training level for each occupation is part of occupational projections.

Step 6: Do other institutions provide this type of training?

Identify other program training providers within commuting distance.

1. From LaborMarketInfo front page, select *Educators/Schools* from the left menu. Scroll down to the *Occupation Profile* feature in the right column.
2. Enter name of occupation. (You will create a separate profile for each selected occupation.)
3. Select the desired geographic area, i.e. California or an individual county.
4. Select the occupation title from the menu box and press *Explore Occupation* to view the *Occupation Profile*.

Scroll to the *Training Programs* heading and select the training program to view a list of schools for the chosen geographic area. Save the results to your *My LMI*. Repeat the above for each occupation, training program, and geographic area. Some occupations may list more than one applicable training program. Alternatively, the Occupational Supply Demand System described in Step 8 lists institutions for each training program level.

Step 7: Community college program data

The above process will generate a broad picture of training availability. However, there is a significant amount of training program supply-demand information not collected by LMID, including the following:

- Capacity of training program.
- Number of students in program.
- Number of students on waiting list for program, when applicable.
- Number of students who complete program.
- Number of students obtaining related employment before completing program.
- Number of students already employed in field who are enrolled in a program only to enhance their skills but have no intention of completing certificate or degree.

Where campus placement services exist, they might be able to supply feedback about employer demand for students from specific programs. Where such services do not exist, employers may directly contact program faculty to obtain skilled students, and faculty may add anecdotal information about demand.

Some placement data by TOP code may be available from the Dean of Career Technical Education at the individual community colleges.

Step 8: New supply-demand resource

The Department of Labor recently introduced a new Web resource called Occupational Supply Demand System (OSDS) for supply/demand analysis of occupations to assist with training and education program planning. It can be examined at www.occsupplydemand.org.

Users should be aware of the following caveats and use the information within the context of its limitations.

- Considerable inconsistency exists among training providers in use of training categories.
- Beware of the temptation to compare the completers data with annual demand data as many occupations do not require a specific certificate or degree to enter the field. To quote the OSDS caveat, “The programs in this cluster train for the related occupations, but do not function as exclusive ports of entry.”
- Completer data do not convey the annual program capacity, as many students could take a course or two to enhance their skills or obtain a job, and will never show up as completers.
- Completer information does not address the question of obtaining related employment after training.

Step 9: What industries employ the target occupations?

Identify California industries that employ the target occupations. Statewide industry-occupation staffing patterns can be found on-line. Explore staffing patterns using the following instructions:

1. From the LaborMarketInfo Web site, www.labormarketinfo.edd.ca.gov, select the *Educators/Schools* portal on the left menu.
2. In the *Occupation Trends* section, select "Staffing Patterns by Industry and Occupation."
3. Enter the occupation related to your training program in the second window labeled "What industries employ a particular occupation?"
4. The resulting list of industries that employ the occupation shows 2002 employment and 2012 projected employment of the target occupation within that industry with the expected numeric change-up or down. Print this list for future reference. It cannot be saved to *MyLMI*.

Industry staffing patterns help program decision making in several ways:

- Identify industries that employ largest numbers of target occupation.
- Identify industries where occupation is projected to grow.
- Identify industries where occupation is projected to decline.
- Identify industry code leading to specific local employers (see Steps 10 and 11).

County-level industry employment figures may be available as an ad hoc report if there are no confidentiality issues. Contact the Labor Market Consultant assigned to your area for more information on the process and the fees involved.

Step 10: Drill down to the exact industry

The Department of Labor contracts for a proprietary database of employers, InfoUSA, that can search for employers in a given geographic area by specific industry titles. It is accessible for no charge on the Labor Market Info Web site.

North American Industry Classification System Hierarchy
All industry information is based on the North American Industry Classification System (NAICS). As with the afore-mentioned CIP, the NAICS is a six-level, hierarchical classification system. The Staffing Patterns by Industry and Occupation in Step 9 brings information together at the four-digit level.

To most effectively use the InfoUSA employer database, the six-digit NAICS level is preferable; otherwise, the list can contain inappropriate employers. The NAICS Desk Aid bridges the numeric gap from the broad two-digit classification to the specific six-digit classification with an outline of NAICS codes and titles.

Step 10: Drill down to the exact industry *continued*

1. Bring up the NAICS Desk Aid at www.calmis.ca.gov/file/naics/naics-guide.pdf.
2. Using the List of Industries Employing XXXX (four-digit level) printed in Step 9, find each industry in the NAICS Desk Aid.
3. Copy and paste the six-digit industry titles related to the four-digit NAICS industry into your list and use these six-digit industry titles as the basis for an employer search.

Step 11: Who are local employers in target industries?

A list of local employers of workers in occupations related to the training programs can be useful in several ways:

- Advisory board members for the program.
- Guest speakers to enrich curriculum content.
- Internship and work experience sites.
- Employment of program students.

Find Employers

The *Find Employers* tool offers three ways to search for employers:

- Searching by name works if you have already identified the employer.
- Searching by occupation generates results at the broad four-digit NAICS level which can produce inappropriate employers.
- Searching by industry is the most productive search for generating a list of employers who actually employ the target occupation group.

Use the list of six-digit NAICS industries identified in Step 10 to find employers.

1. At the LaborMarketInfo front page, select the *Educators/Schools* portal from the left menu, and then the *Find Employers* feature in the left menu.
2. Scroll to the bottom of the page and select *Search for Employers by Industry*.
3. Use the keyword method for choosing an industry. Enter a keyword from the list of industries you developed in Step 10.
4. Step A — select an industry from the list that appears (if more than one).
5. Step B — Select the desired employer size from the drop-down menu.
6. Step C — Select the geographic area, either California or a specific county.

Step 11: Who are local employers in target industries? *continued*

7. Employer Search Results lists employers meeting your selection criteria.
8. Click on an employers name for these Employer Details —
   - Industry name
   - Contact name
   - Employer class size
   - Address
   - Telephone
   - Link to location map

Repeat directions three through eight above until all employers in your area appropriate to the occupation have been identified.

Step 12: What apprenticeships, certifications, or licensing exist?

Licensure, certification, and apprenticeship play a major role in some occupations and no role in others. Check the resources below to determine their importance to your target occupations.

Apprenticeships
http://www.dir.ca.gov/databases/das/aigstart.asp

The Division of Apprenticeship Standards maintains a database of California apprenticeships searchable by occupation and geographic area.

Licensure
www.labormarketinfo.edd.ca.gov

The Occupation Profile Details section titled Possible Licenses Required and Issuing Authority lists contact information for California licenses relevant to the occupation.

Certifications
http://www.acinet.org/acinet/certifications_new/cert_search_occupation.asp?by=occ

Many professional and trade associations offer certifications. Use America's Career InfoNet, Career Tools' Certification Finder to locate certification programs by occupation or industry.

Conclusion

The steps detailed in this guide will identify occupations related to a training program, the wages that can be expected, competing training programs, other occupations competing for potential workers, demand for the occupation, potential employers of students trained by the program, and information about licensing or skill certification if applicable.

APPENDIX A: Bureau of Labor Statistics Training Definitions and Estimated California Demographics

Training Level Definition*	Estimated CA Occupations**	Estimated CA Workers**
First professional degree is the minimum preparation required for entry into several professions, including law, medicine, dentistry, and the clergy. Completion of this academic program usually requires at least two years of full-time academic study beyond a Bachelor's degree. Examples: law, medicine, dentistry, and clergy.	16	142,750
Doctoral degree usually requires at least three years of full-time academic work beyond the Bachelor's degree. Completion of this program is required for entry into six occupations in academia and the physical, biological and social sciences. Examples: positions in academia and the physical, biological and social sciences.	20	60,830
Master's degree programs usually require one or two years of full-time study beyond the Bachelor's degree. Examples: urban planner, management analyst, and librarian.	35	273,180
Work experience plus a Bachelor's degree or higher is comprised of managerial occupations that require experience in a related nonmanagerial occupation. Examples: engineers who advance to engineering manager. It is very difficult to become a judge without first working as a lawyer, or to become a personnel, training, or labor relations manager without first gaining experience as a specialist in these fields.	27	652,150
Bachelor's degree requiring at least four but not more than five years of full-time academic work after high school. Examples: mechanical engineer, pharmacist, recreational therapist, and landscape architect.	95	1,840,580
Associate degree usually requires at least 2 years of full-time academic work after high school. Examples: most are health related, such as registered nurse, respiratory therapist, and radiologic technologist. Also, science and mathematics technicians and paralegals.	35	521,350
Post-secondary vocational training is provided in postsecondary vocational school or by taking job-related college courses that do not result in a degree. Some programs take less than a year to complete and lead to a certificate or diploma. Others last longer than a year but less than four years. Examples: travel agent, barber, cosmetologists.	44	477,320
Work experience in a related occupation including occupations in which skills may be developed from hobbies or other activities besides current or past employment or from service in the Armed Forces. Examples: cost estimators, who need prior work experience in one of the construction trades; police detective, who are selected based on their experience as a police patrol officer; and lawn service managers, who may be hired based on their experience as groundskeepers.	38	832,130
Long-term on-the-job training, more than 12 months includes occupations that generally require more than 12 months of OJT training or combined work experience and formal classroom instruction before workers develop the skills needed for average job performance. Examples: electrician, bricklayer, and machinists. Also included are intensive occupation-specific employer-sponsored programs that workers must successfully complete before they can begin work, such as fire and police academies and schools for air traffic controllers and flight attendants. In other occupations, such as insurance sales and securities sales, trainees take formal courses, often at the job site, to prepare for the required licensing exams. Individuals undergoing training are generally considered to be employed in the occupation. This group of occupations also includes musicians, athletes, actors, and other entertainers—occupations that require natural abilities developed over several years.	72	1,132,940
Moderate on-the-job training, 1 to 12 months includes occupations in which workers can achieve average job performance after 1 to 12 months of combined OJT and informal training. This can include observing experienced workers. Individuals undergoing training are generally considered to be employed in the occupation. This training relies on trainees watching experienced workers and asking questions. Trainees are given progressively more difficult assignments as they demonstrate their mastery of lower level skills. Examples: dental assistants, drywall installers and finishers, operating engineers, and machine operators.	130	2,506,630
Short-term on-the-job training, less than 30 days provides average job performance in just a few days or weeks by working with and observing experience employees and by asking questions. Examples: cashier, bank teller, messenger, highway maintenance worker, veterinary assistant.	128	5,572,410
TOTAL	**640**	**14,042,270**

*Darrel Patrick Wash, "A New Way to Classify Occupations by Education and Training," Occupational Outlook Quarterly, Winter 1995-96, p. 29.
**Occupational Employment Statistics, Labor Market Information Division, Employment Development Department, November 2004.

APPENDIX B: 2005 California Wages by Training Level[1]

BLS Training Level		Nov. 2004 Est. Empl.	Mean Wage	Entry-Level Wage[2]	10th Percentile	25th Percentile	50th Percentile (Median)	75th Percentile	90th Percentile
Professional		142,750							
	Annual		$129,686	$73,302	$61,063	$90,852	$119,042	>$145,600	>$145,600
	Hourly		*$62.35*	*$35.24*	*$29.36*	*$43.67*	*$57.23*	*>$70.01*	*>$70.01*
Doctorate		60,830							
	Annual		$79,551	$47,081	$42,167	$54,905	$73,846	$96,168	$124,999
	Hourly		*$38.24*	*$22.63*	*$20.27*	*$26.39*	*$35.50*	*$46.23*	*$60.10*
Master's		273,180							
	Annual		$62,987	$34,262	$29,485	$41,609	$60,083	$79,832	$100,667
	Hourly		*$30.28*	*$16.47*	*$14.17*	*$20.00*	*$28.89*	*$38.38*	*$48.40*
Bachelor's + Experience		652,150							
	Annual		$107,066	$55,417	$48,795	$66,986	$94,529	$137,879	>$145,600
	Hourly		*$51.47*	*$26.65*	*$23.46*		*$45.44*	*$66.28*	*>$70.01*
Bachelor's		1,840,580							
	Annual		$65,315	$35,851	$31,274	$43,508	$59,975	$80,901	$107,527
	Hourly		*$31.41*	*$17.23*	*$15.04*	*$20.92*	*$28.84*	*$38.90*	*$51.69*
Associate		521,350							
	Annual		$59,968	$36,487	$31,385	$43,707	$59,301	$73,871	$90,756
	Hourly		*$28.83*	*$17.54*	*$15.09*	*$21.01*	*$28.51*	*$35.51*	*$43.63*
Post-Secondary Voc.		477,320							
	Annual		$39,741	$22,565	$19,078	$26,686	$37,313	$48,706	$62,029
	Hourly		*$19.10*	*$10.85*	*$9.17*	*$12.83*	*$17.94*	*$23.42*	*$29.82*
Work Experience		862,130							
	Annual		$51,242	$27,561	$24,108	$32,696	$44,996	$63,868	$87,485
	Hourly		*$24.63*	*$13.25*	*$11.59*	*$15.72*	*$21.63*	*$30.71*	*$42.06*
Long-Term OJT		1,132,940							
	Annual		$42,524	$22,026	$19,345	$25,692	$38,976	$55,472	$70,897
	Hourly		*$20.44*	*$10.59*	*$9.30*	*$12.35*	*$18.74*	*$26.67*	*$34.09*
Moderate OJT		2,506,630							
	Annual		$36,267	$20,814	$18,097	$23,808	$32,778	$44,025	$57,604
	Hourly		*$17.44*	*$10.01*	*$8.70*	*$11.44*	*$15.76*	*$21.16*	*$27.70*
Short-Term OJT		5,572,410							
	Annual		$23,989	$16,294	$15,532	$17,004	$20,521	$28,078	$38,053
	Hourly		*$11.53*	*$7.83*	*$7.47*	*$8.17*	*$9.87*	*$13.49*	*$18.29*

[1]Data does not reflect wages for self-employed workers. [2]The mean of the first third of the wage distribution is provided as a proxy for entry-level wage.

The California Labor Market Information Division has provided an extension to the official OES data series (which have been developed in cooperation with the Bureau of Labor Statistics). This additional product has not been validated by BLS and is not, therefore, official BLS data series. The California Labor Market Information Division feels, however, that this provides additional information that is useful to the users of California Labor Market Information Division data. These survey data are from the 2004 Occupational Employment Statistics (OES) survey. The wages have been updated to the third quarter of 2005 by applying the US Department of Labor's Employment Cost Index to the 2004 wages.